Oak Ridge Institute for Science and Education (ORISE)

Ten-Year Site Plan (Revision 1)

June 2006

The Oak Ridge Institute for Science and Education (ORISE) is a U.S. Department of Energy institute focusing on scientific initiatives to research health risks from occupational hazards, assess environmental cleanup, respond to radiation medical emergencies, support national security and emergency preparedness, and educate the next generation of scientists. ORISE is managed by Oak Ridge Associated Universities.

This document describes activities performed under contract number DE-AC05-06OR23100 between the U.S. Department of Energy and Oak Ridge Associated Universities.

Foreword

This document has been prepared in accordance with SC guidance and has been tailored to suit the size and nature of the ORISE site. Revision 1 incorporates the most recent HQ guidance for preparation of the IFI Data Sheet (Appendix 3).

Executive Summary

As of May 2006, ORISE continues on schedule with a multi-year site consolidation and facilities modernization plan. In FY2001, ORISE operated six different sites within the City of Oak Ridge. In FY2005, ORISE completed construction of Building SC-200 and vacated the Warehouse Road Site. Near the end of 2006, following a large interior reconfiguration project in Building SC-1, two additional buildings will be vacated at the Laboratory Road Site, leaving one small building occupied by ORISE at this site. All buildings at this site will be vacated by the end of FY2009. By the end of 2006, ORISE will have consolidated its Oak Ridge operations into four sites – three owned by DOE and one owned by Oak Ridge Associated Universities (ORAU).

Efforts are also underway to administratively transfer ownership of the South Illinois Avenue Site from DOE to the Department of Commerce / National Oceanic and Atmospheric Administration (NOAA). Completion of this action, expected to be completed in FY2008, will reduce the number of ORISE DOE-owned Oak Ridge sites to two.

As part of the consolidation effort, ORISE also continues to excess and demolish low-quality underutilized buildings at the South Campus Site and administratively transfer other buildings no longer required for the mission. In FY2005, ORISE demolished Building SC-26 (12,800 gsf) and administratively transferred ownership of the Vance Road Building (59,800 gsf) to DOE/ORO. This building is scheduled to be transferred to the private sector in FY2006. In FY2005 and FY2006, ORISE received funding to demolish Building SC-2 (952 gsf) and Building SC-5 (5,641 gsf). This work, along with demolition of Building SC-4 (3,596 gsf), another small adjacent excess building, is scheduled to be completed in FY2006. By the end of FY2006, ORISE will have reduced the number and square footage of its DOE-owned buildings in Oak Ridge from 21 buildings and 252,965 gsf in FY2005 to 15 buildings and 138,801 gsf. Over the same period, the total ORISE building RPV will have been reduced from $36,855,125 to $23,714,745. By the end of FY2009, ORISE expects to operate only the South Campus Site, with a total of 9 buildings, 97,751 gsf, and a combined RPV of only $16,813,325 (escalated).

Overview of Site Facilities and Infrastructure

Currently, ORISE operates 22 buildings (275,505 gsf) located on three DOE-owned sites and one site owned by ORAU, spread across a three mile radius within the City of Oak Ridge, Tennessee. In addition, ORISE also utilizes office and laboratory/research space located at other facilities on the Oak Ridge Reservation, as well as leased office space in Oak Ridge and in other parts of the country. See the section entitled “Leasing” (Page 3) for additional

details regarding leased space.

Of the Oak Ridge facilities, 18 are DOE-owned, totaling 148,990 gsf of space. Fifteen of the DOE-owned buildings are active, totaling 138,801 gsf, and 3 buildings are classified as excess facilities, totaling 10,189 gsf. Four buildings owned by ORAU, totaling 126,515 gsf, also support the ORISE Oak Ridge operations. See Table 1 and Table 2, below for more information on the ORISE DOE-owned and ORAU-owned facilities.

Table 1. ORISE DOE-Owned Facilities (May 2006)

Building	Built	Area (gsf)	FIMS	RPV
Active Facilities				
ATDD Main Building	1943	10,443	ORISE	$2,088,600
ATDD Wind Tunnel Building	1977	4,250	ORISE	$382,500
ATDD Mobile Office	1985	2,016	ORISE	$40,320
ATDD Storage Building	1945	864	ORISE	$51,840
2714G	1944	20,384	ORISE	$4,688,320
2715	1944	3,413	ORISE	$819,120
2715A (trailer)	1980	1,680	ORISE	$33,600
SC-1	1939	46,808	ORISE	$8,893,520
SC-9	1962	1,405	ORISE	$2,259,225
SC-10	1961	10,041	ORISE	$408,330
SC-13	1966	4,537	ORISE	$309,150
SC-15	1975	3,435	ORISE	$173,790
SC-16	1982	1,931	ORISE	$1,282,020
SC-100	2003	5,574	ORISE	$2,157,960
SC-200	2005	22,020	ORISE	$2,088,600
Total - Active Facilities		**138,801**		**$23,714,745**
Excess Facilities				
SC-2	1964	952	ORISE	$147,560
SC-4	1966	3,596	ORISE	$359,600
SC-5	1960	5,641	ORISE	$564,100
Total - Excess Facilities		**10,189**		**$1,148,300**
Total - All Facilities		**148,990**		**$24,863,045**

Table 2. ORAU-Owned Facilities (May 2006)

Building	Built	Area (gsf)
MC-120	1963	30,032
MC-130	1961	13,051
MC-210	1982	27,219
MC-212	2004	56,213
Total - Active Facilities		**126,515**

Table 3. ORISE Land Area

Site	Acreage
South Campus	223.0
Laboratory Road	3.8
S. Illinois Avenue	11.0
Total	**237.8**

ORISE manages approximately 238 acres of DOE-owned land within the City of Oak Ridge. By the end of FY2008, the total ORISE acreage is expected to be reduced to 223 acres.

Leasing

ORISE occupies all or a portion of four ORAU-owned office buildings within the City of Oak Ridge. These buildings are provided to ORISE under a use-fee arrangement with DOE. The ORISE central computer center and limited security area (LSA) are located in the newest of these buildings. In addition to the ORAU-owned buildings, the ORISE REAC/TS program occupies 9,004 gsf in the Oak Ridge Methodist Medical Center under a 20-year no-cost use permit arrangement between the medical center and DOE. The ORISE Science Education Program, which operates several ORISE education programs, is located at 701 Scarboro Road in Oak Ridge in office space that is leased by the ORAU Corporation. Several other ORISE Oak Ridge employees are co-located at the Oak Ridge National Laboratory (ORNL). Finally, ORISE employees are situated in ORAU Corporation leased or co-located space in Washington, D.C.; Arvada, Colorado; Aberdeen, MD; Fredericksburg, VA; and Davis, WV.

ORISE Mission

A Summary of the ORISE mission is as follows:

- Building public trust and confidence in DOE's management of nuclear workforce health issues and environmental cleanup activities.
- Sustaining DOE's national and international leadership in emergency medical response to radiation incidents and in counter-terrorism operational readiness.
- Educating DOE's next generation of scientists and technical leaders.

Currently, ORISE expects no significant changes in its mission as stated above. However, ORISE expects continued growth, to varying degrees, in each of these core areas over the foreseeable future. As of May 2006, 477 full-time ORISE employees are located in the Oak Ridge facilities. Projections for ORISE staffing and funding are presented in Table 4, below.

Table 4. ORISE Staff and Funding Projections

	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
Funding ($M)	61.4	64.7	63.4	61.7	62.8	64.3	65.3	66.7	68.1	69.5	71.0	72.5
Staffing	477	492	492	495	498	501	504	507	510	513	516	519

Additional information regarding the ORISE business programs and capabilities may be accessed via the Internet on the ORISE Home Page, http://www.orau.gov/orise.htm.

Vision, Goals, and Strategy

ORISE envisions a high-quality working environment for all employees that is modern and attractive, healthy, safe and secure, technologically up-to-date, economically efficient, conducive to productive work, and fully capable of meeting current and future mission

requirements. The ORISE vision also includes consolidation of all facilities into a single DOE-owned site and the ORAU Main Campus.

To this end, ORISE has developed a long-term facilities consolidation and modernization plan, explained in detail in the Land Use Plans and Land Management Issues section (below), along with a series of interim goals that will ensure realization of the ORISE vision. To date, ORISE has achieved considerable success in implementing this plan.

ORISE will continue to utilize a combination of expense and capital (GPP) funding to maintain and modernize the DOE-owned infrastructure and DOE/HQ direct funding to clean up and demolish excess facilities that no longer have a foreseeable mission. ORISE will also continue to vacate and transfer underutilized facilities that are otherwise in stable and useable condition. Finally, ORISE will continue to perform routine preventive and corrective maintenance activities at a minimum 2% MII level that will ensure that existing facilities, equipment, and systems are maintained in top operating condition and the ORISE ACI remains at or above 0.95.

Space Management & Utilization

Over the years, the need for research, laboratory, and animal care space at ORISE has diminished and given way to the need for additional office space, which is currently the dominate space use type. ORISE has been proactive and efficient in adapting existing facility space to meet changing needs as well as improving overall building usage efficiency. Table 5, below, provides additional information regarding space usage type at ORISE.

Table 5. Space Type - ORISE Active Facilities

		Space Usage Type (gsf)				
	Area (gsf)	**Office**	**Labs**	**Classroom**	**Storage**	**Misc.**
Active DOE-Owned Facilities	138,801	58,765	26,446	8,810	37,882	6,898
ORAU-Owned Facilities	126,515	60,027	0	7,124	4,748	54,616
Total - All Facilities	**265,316**	**118,792**	**26,446**	**15,934**	**42,630**	**61,514**

Land Use Plans and Land Management Issues

In September 2001, in conjunction with DOE/ORO and others, ORISE participated in a space management review of all of the DOE-owned facilities that are located within the city limits of Oak Ridge to determine their most efficient and effective utilization. As part of this review, ORISE demonstrated the many benefits of consolidating its Oak Ridge operations from six sites to three sites - the South Campus and South Illinois Avenue sites (DOE-owned) and the ORAU Main Campus site (ORAU-owned). This vision would allow ORISE to (1) vacate the Vance Road Building, allowing its eventual transfer to the private sector, (2) vacate the ORISE occupied section of Building 1916T2, making it available for DOE/ORO exclusive use, and (3) vacate the three ORISE Laboratory Road buildings, similarly making them available for DOE/ORO exclusive use. Since that time, ORISE has made significant

progress towards this end. Appendix 1 and Appendix 2 provide graphical detail of the ORISE Facilities Consolidation and Modernization Plan.

In FY2002, ORISE demolished the excess building SC-14 (5,028 gsf) and began construction of Building SC-100, a 5,574 gsf office building to house the Facilities and Transportation Department (FTD) administrative staff. During the same year, ORAU and DOE/ORO agreed for ORAU to construct a new 56,213 gsf ORAU-owned facility at the ORAU Main Campus. This new building was planned to house the ORISE central computer center and most of the office staff vacated from the Vance Road Building, the Laboratory Road buildings, and Building 1916T2. Also in FY2002, ORISE completed construction of a 5,756 gsf laboratory addition to Building SC-10 and occupied this space with the ORISE Beryllium Laboratory Program, which relocated from the Vance Road Building. Finally, in FY2002, the ORISE Radiological Safety, Assessments, and Training (RSAT) Laboratory moved from Building SC-1 to Building SC-10 to consolidate wet chemistry and analytical operations in a single building.

In FY2003, ORISE completed construction of Building SC-100 and occupied it with the FTD administrative staff, previously located in Building 1916T2. Also in FY2003, ORISE began architectural and engineering design work to demolish Building SC-3, a 15,990 gsf warehouse, which was determined to be structurally unsound, and to construct Building SC-200, a new 22,020 gsf warehouse, in its place. This would allow the ORISE warehouse, shipping and receiving, excess property storage, records storage, mail services, maintenance shop, and locksmith operations to relocate from Building 1916T2 to the South Campus Site.

In FY2004, ORISE completed demolition of Building SC-3 and began construction on Building SC-200. Also during this year, construction work was completed on the new ORAU-owned office building and more than 130 ORISE staff, the central computer center, and the Limited Security Area (LSA) were relocated into the new building. After completing two small office reconfiguration projects, ORISE relocated the remaining staff from the Vance Road Building and most of the Environment, Safety, and Health (ESH) Department staff from Building 1916T2 to Building SC-1. These moves resulted in vacating the Vance Road Building, Building 2715 (although still used intermittently for training), and the F-wing of Building 2714. In June 2004, ORISE transferred the Building 2714 F-wing and a portion of the G-wing to DOE/ORO for its use. ORISE also made a large portion of the previously occupied 1916T2 building available for DOE/ORO use.

In April 2005, ORISE completed retrofit construction of the ESH laboratories in Building SC-1, and relocated all remaining operations from Building 1916T2 to Building SC-1. ORISE also completed engineering design work and begin retrofit construction to reconfigure a portion of Building SC-1 to house the Professional Training Program (PTP), the only remaining ORISE program still located at the Laboratory Road Site. Finally, in FY2005, ORISE completed the radiological survey and cleanup of the Vance Road Building, preparing it for DOE/ORO transfer to the private sector in 2006.

In 2006, ORISE will complete retrofit construction work in Building SC-1 and relocate the PTP staff and operations to this building. This move will complete consolidation of the

ORISE operations into three sites and mark the end of all major consolidation and modernization efforts proposed during the FY2001 Oak Ridge site review.

ORISE is currently in the conceptual planning stage for a large site improvement project at the South Campus Site. This project will encompass road, walkway, area drainage, utility system, and exterior lighting improvements. Funding for this project was provided in FY2006 and construction is scheduled to be completed in 2007.

ORISE will also continue to manage the South Illinois Avenue facility through FY2007. This facility (4 buildings, 17,573 gsf) currently houses the ATDD/NOAA operations under a 50-year permit agreement between DOE and the Department of Commerce. However, efforts are currently underway to administratively transfer ownership of this site to NOAA. This action, expected to be completed in FY2008 and contingent upon cooperation and agreement with NOAA, will further reduce the DOE footprint inside the City of Oak Ridge.

As part of the facility consolidation efforts, ORISE will also continue to excess and demolish low-quality underutilized buildings at the South Campus Site. Three excess buildings totaling 10,189 gsf is scheduled to be demolished by the end of FY2006. By the end of FY2009, ORISE expects to reduce the number and square footage of its DOE-owned buildings in Oak Ridge from the current 18 buildings and 148,990 gsf to 9 buildings and 97,751 gsf, all located at the ORISE South Campus Site. At that time, the total ORISE facility RPV will be reduced by more than 55% from $36,855,125 in FY2005 to $16,435,445 (unescalated).

Disposition and Long Term Stewardship of Excess Facilities

Three facilities are currently listed as excess in the ORISE FIMS database: SC-2, SC-4, and SC-5. All of these facilities are located at the South Campus site. Approximately $5K annually is required for maintenance and surveillance to keep these buildings in a stable condition. Since management plans exist for the disposition of all of these facilities, long term stewardship is not considered an issue at ORISE as there is no plan to vacate the South Campus Site within the foreseeable future.

All but two of the several buildings located at the South Campus Site were formerly operated by the University of Tennessee Comparative Animal Research Laboratory (UT-CARL), as an agriculture experiment station. The facilities, along with some 223 acres of surrounding land, were assigned to ORISE in 1981. Radionuclides were used extensively at UT-CARL and buildings SC-2 and SC-5 were both contaminated during the experimental research work. In addition to radionuclide contamination, Building SC-2 also contains asbestos impregnated HVAC system ductwork.

Building SC-2 (952 gsf) is the most extensively contaminated building at ORISE. This building functioned as the UT-CARL Isotope Laboratory to fabricate sealed sources for animal irradiation and to prepare radioactive doses administered for various animal metabolic studies. The radionuclides used in SC-2 include Sr-90, C-14, H-3, Eu-152, Eu-154, Am-241, Co-60, Cs-137, and Cd-109. In addition to the interior structure itself, the SC-2 fume hood

filtering system is likely to be contaminated as is the network of building drain piping. ORISE has received funding for deactivating and demolishing SC-2, which will be completed prior to the end of FY2006.

Building SC-5 (5,641 gsf), the UT-CARL Large Animal Containment Facility, contains animal holding cells, a laboratory fume hood, a walk-in freezer, and an extensive HEPA filtration system that is contaminated with Am-241. Funding for deactivating and demolishing Building SC-5 was provided in FY2006. Demolition of this building is expected to be completed by the end of FY2006.

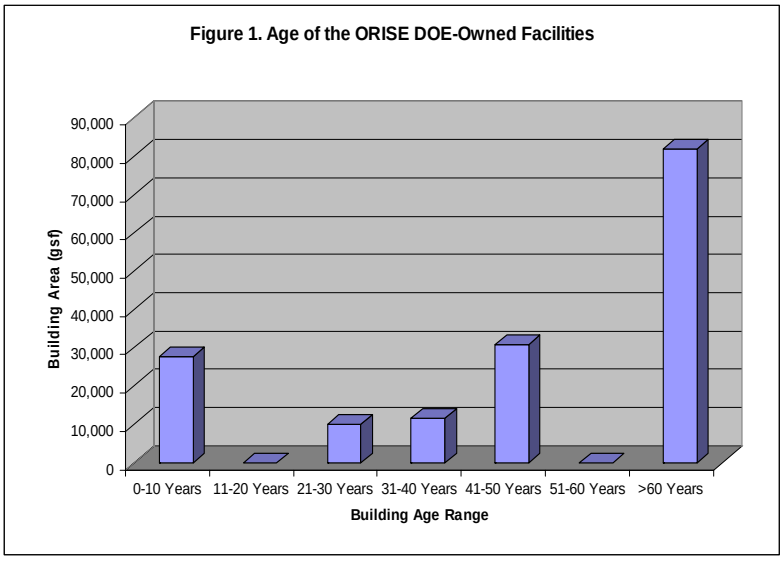
Building SC-4 (3,596 gsf), a masonry block wall / metal roof shed, adjacent to Building SC-5, was used by UT-CARL to house poultry. This radiologically clean building will be demolished along with Building SC-5.

The Vance Road Building (59,800 gsf), currently maintained by ORISE, but residing in the DOE/ORO FIMS registry, was constructed in 1944 as a medical hospital to serve the residents of Oak Ridge. Since that time, the building has been converted to house various animal and medical research projects, along with the ORISE central computer center and office support functions. Radioisotopes were used in many of the research projects. In July 2004, all employees and ORISE operations remaining in this building were relocated to more efficient facilities. In August 2004, all remaining furniture, property, and equipment items were removed. A plan to provide a clean parcel determination allowing DOE/ORO to transfer this property to the private sector was developed and approved in 2002. All radiological clean up work necessary for transferring this facility have been completed and a final report, including a land survey and a CERCLA 120(h) review, performed by an independent contractor, was issued in May 2005. Transfer of the Vance Road Building is expected to be completed in 2006.

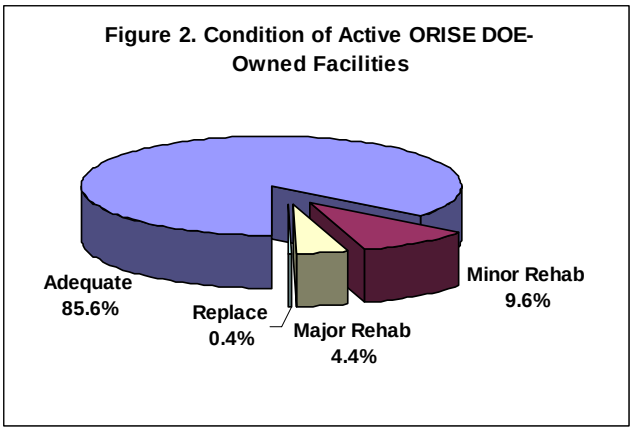
Facility Condition and Condition Assessment Process

As can be seen in Figure 1, most of the DOE-owned space occupied by ORISE was constructed during the World War II era. Because of this, many of these buildings have required extensive maintenance, major system improvements (e.g., HVAC, electrical, computer network, telecommunications), and interior space reconfiguration to efficiently meet changing program operational requirements and to ensure worker health, safety, and security.

Figure 1. Age of the ORISE DOE-Owned Facilities



Since 1993, ORISE has been highly successful in obtaining General Plant Project (GPP) funding through the DOE/HQ landlord office to implement these and other facility improvements. ORISE has also utilized In-House Energy Management (IHEM) and program expense sources to fund these activities as well as ORAU Corporation funds to improve building energy efficiency and reduce facility operating and maintenance costs. Currently, 85.6% of the active ORISE DOE-owned space is considered to be adequate to meet program needs with only 4.4% needing major rehabilitation and 0.4% needing replacement. See Figure 2 for a graphical representation of the current condition of the active ORISE facilities.



ORISE engineering and maintenance personnel conduct an annual informal condition assessment survey of all buildings and grounds to identify and document needed maintenance repair projects. Also, in a somewhat continuous process, maintenance repair tasks are identified by other means: routine management walk-throughs, maintenance employee and customer observations, program requests, etc. In addition to the above, and in accordance with DOE O 430.1B, Real Property Asset Management (RPAM), ORISE also conducts more formal condition assessments of its facilities. The next formal assessment will occur in FY2006.

Facilities Sustainment Program and Management of Deferred Maintenance (DM)

ORISE manages a number of processes to ensure its facilities are maintained in a suitable condition to efficiently and effectively carry out program missions, both now and in the future. These include:

- Identification of maintenance repair projects through a combination of formal and informal facility condition assessment surveys.
- Identification and management of capital infrastructure improvement projects.
- Management of corrective maintenance and preventive maintenance (PM) programs.
- DM project management – identification, backlog tracking, reporting.
- Maintenance and capital project budget management – includes management of ORISE maintenance investment index (MII) requirements.

As stated above, ORISE utilizes a combination of formal and informal facility condition assessment surveys to identify and document repair maintenance projects. All maintenance projects are reviewed for immediate “do-it-now” or normal priority need. Immediate need projects are either completed by an ORISE maintenance mechanic on-the-spot (for projects of two or more hours duration) or planned and the information logged directly into the ORISE work order system. Immediate need projects are then integrated into the maintenance work plan for high priority processing.

Normal priority maintenance projects may either be planned and the data inserted into the work order system or, for lower priority projects, logged into a maintenance backlog database. Lower priority maintenance projects are reviewed and re-prioritized at frequent intervals. Projects ready for work are then planned and moved into the work order system for processing. During periodic reviews of the maintenance backlog database, DM projects are identified and marked as such in the database. All projects, deferred maintenance or otherwise, are tracked from the time they are identified until completed. Database reporting software allows the development of a variety of reports based on the query of one or more data parameters. A number of standard reports have been developed, such as those that track the DM backlog.

In addition to the corrective maintenance program, ORISE manages an outstanding PM program. For this purpose, ORISE has developed a PM Database application that automatically schedules PM regimens for very nearly every individually maintainable equipment item at ORISE, including building envelope subsystems. Most of the ORISE building related equipment items have monthly PM task assignments, while many others have weekly PMs – all scheduled automatically by the PM Database. For a period of more than 12 years, ORISE has completed 100% of its scheduled PM tasks within 30 days of the scheduled completion date. During this period, ORISE has experienced significantly reduced equipment repair costs, fewer maintenance call-outs, and little or no significant seasonal weather-related losses to its facilities. The strong commitment to this program has enabled ORISE employees to work productively by keeping building systems in top operating condition and equipment failures to an absolute minimum. Currently, the ORISE ACI is 0.99.

ORISE ensures that facility maintenance is adequately funded by budgeting for and tracking all expense and capital maintenance related expenditures. As a part of this process, ORISE reports maintenance expenditures quarterly and measures them against prescribed MII requirements. Transfer of unutilized facilities (and subsequent RPV reduction) will allow annual maintenance expenditures at ORISE to decrease progressively from FY2006 through FY2008. See Table 6 for additional information regarding the ORISE RPV and maintenance funding plan from FY2008 to FY2017.

Table 6. ORISE RPV and Maintenance Funding Projections

Year	RPV (Existing Facilities)	Additions & Eliminations	Total RPV	Maintenance Funding Plan
FY08	$16,429,565		$16,429,565	$328,591
FY09	$16,807,445	$5,880	$16,813,325	$336,266
FY10	$17,199,896		$17,199,896	$343,998
FY11	$17,595,494	$1,300,000	$18,895,494	$377,910
FY12	$19,300,190		$19,300,190	$386,004
FY13	$19,744,095		$19,744,095	$394,882
FY14	$20,198,209		$20,198,209	$403,964
FY15	$20,662,768		$20,662,768	$413,255
FY16	$21,138,011		$21,138,011	$422,760
FY17	$21,624,185		$21,624,185	$432,484

* Assumptions - Escalation 2.3%; ATDD Site transferred to DOC/NOAA FY2008

ORISE also maintains a database of capital infrastructure improvement projects. Capital projects may be identified in much the same way as that for maintenance repair projects. More frequently, however, capital infrastructure improvement projects are developed after a review and discussion of current and future program mission needs. Each capital project is evaluated against an infrastructure project scoring matrix and assigned an overall score. Prioritization is further evaluated and established in concert with DOE/ORO and the ORISE landlord office. Most ORISE capital projects are direct funded through the landlord office. ORAU-owned building capital infrastructure improvement projects are funded by the ORAU Corporation. As with maintenance repair projects, capital infrastructure improvement projects are implemented in a prioritized fashion as funding becomes available.

General Plant Projects (GPP) - See Appendix 3

Site Space Bank Analysis

Table 7, below, shows the projected changes in ORISE contributions to the DOE space bank. Note that the 17,753 gsf scheduled for removal in FY2008 consists of transferring the ATDD South Illinois Avenue facilities to NOAA.

Table 7. ORISE Space Bank Analysis

Year	Expected Additions (gsf)	Expected Removals (gsf)	Net Change (gsf)	Available Offsetting Space (gsf)
FY2005		(12,800)	(12,800)	11,798
FY2006		(10,189)	(10,189)	21,987
FY2007				21,987
FY2008		(17,573)	(17,573)	39,560
FY2009	2,000		2,000	37,560
FY2010				37,560
FY2011	12,000		12,000	25,560
FY2012				25,560
FY2013				25,560
FY2014				25,560
FY2015				25,560
FY2016				25,560
FY2017				25,560

ORISE Alternate GPP Investment Plan

In order for ORISE to complete facilities consolidation and modernization goals, $950K in additional GPP funding will be needed during the FY2008 to FY2011 time period. This funding will support construction of the 2,000 gsf Californium Source Teaching Lab and a fully sized 16,000 gsf storage facility. Table 8 shows a comparison of the SC planned GPP funding plan and the ORISE alternative GPP funding plan.

Table 8. ORISE Alternative GPP Investment Plan ($000)												
	FY06	**FY07**	**FY08**	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**
SC Funding Plan	974	900	700	700	700	700	735	772	811	851	894	939
Alternative Plan	974	900	925	625	2100	100	735	772	811	851	894	939

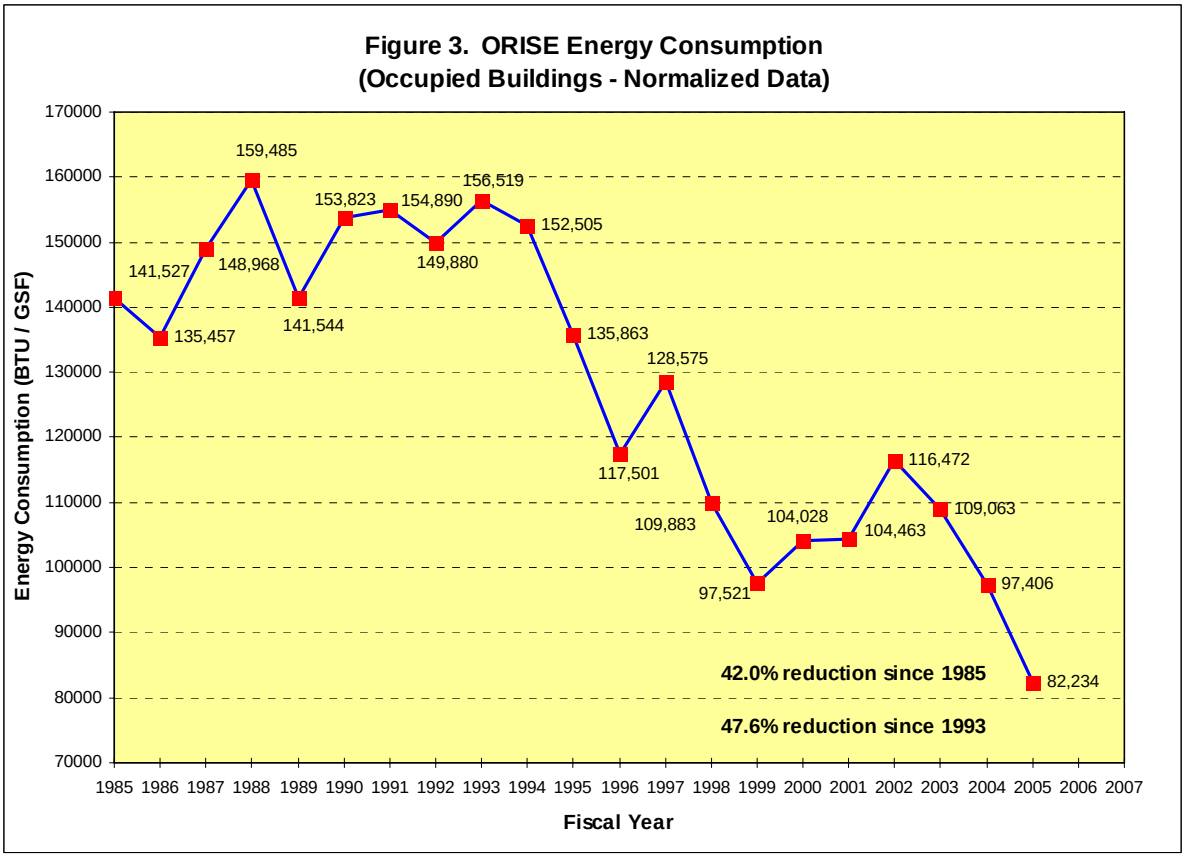
Energy Management

ORISE continues to pursue an aggressive energy management program that is based on sound energy management practices and in compliance with DOE O 430.2A, Departmental Energy and Utilities Management, Executive Order 13123, Greening the Government through Efficient Energy Management, and EPACT 2005.

In FY1993, ORISE began implementation of a structured long-range energy management program aimed at reducing energy consumption and energy-related expenses. Since that time, ORISE has conducted energy management in a multi-faceted approach. Elements of the ORISE energy management program include the following:

- Conducting facility energy audits to identify energy conservation opportunities (ECOs).
- Pursuing and creatively utilizing energy conservation project funding.
- Implementing energy conservation retrofit projects.
- Consolidating and modernizing facilities.
- Conducting energy efficiency and life-cycle cost studies as part of new and retrofit construction project engineering designs and incorporating the most energy efficient systems and equipment into the final design.
- Maintaining energy consuming facilities-related equipment in top mechanical condition and operating it in the most energy efficient manner.
- Selecting and purchasing Energy Star® certified office equipment and appliances.
- Selecting and purchasing energy efficient building equipment.
- Selecting and purchasing water saving appliances and water system components.
- Monitoring and reporting energy consumption and costs.
- Educating employees in energy conservation awareness and energy saving techniques.

As a result of this aggressive program, FY2005 energy consumption in the ORISE facilities fell to its lowest level since FY1985. In FY2005, energy consumption at ORISE was reduced by 42.0% compared to FY1985 and 47.6% compared to FY1993 (See Figure 3, below).



Summary of Resource Needs
See Appendix 3 for the ORISE Ten-Year Funding Plan (IFI Crosscut Budget).

ORISE Contacts

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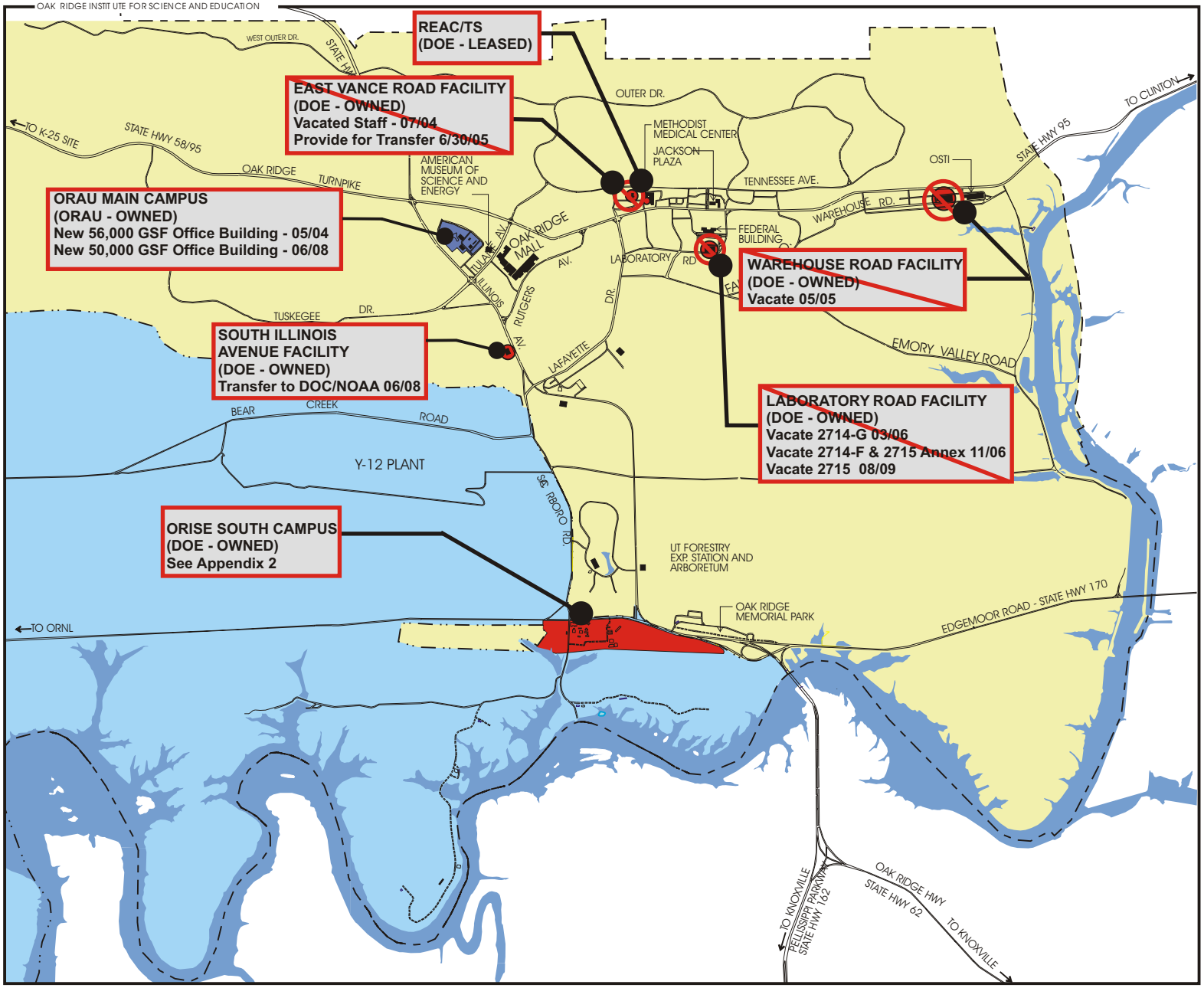
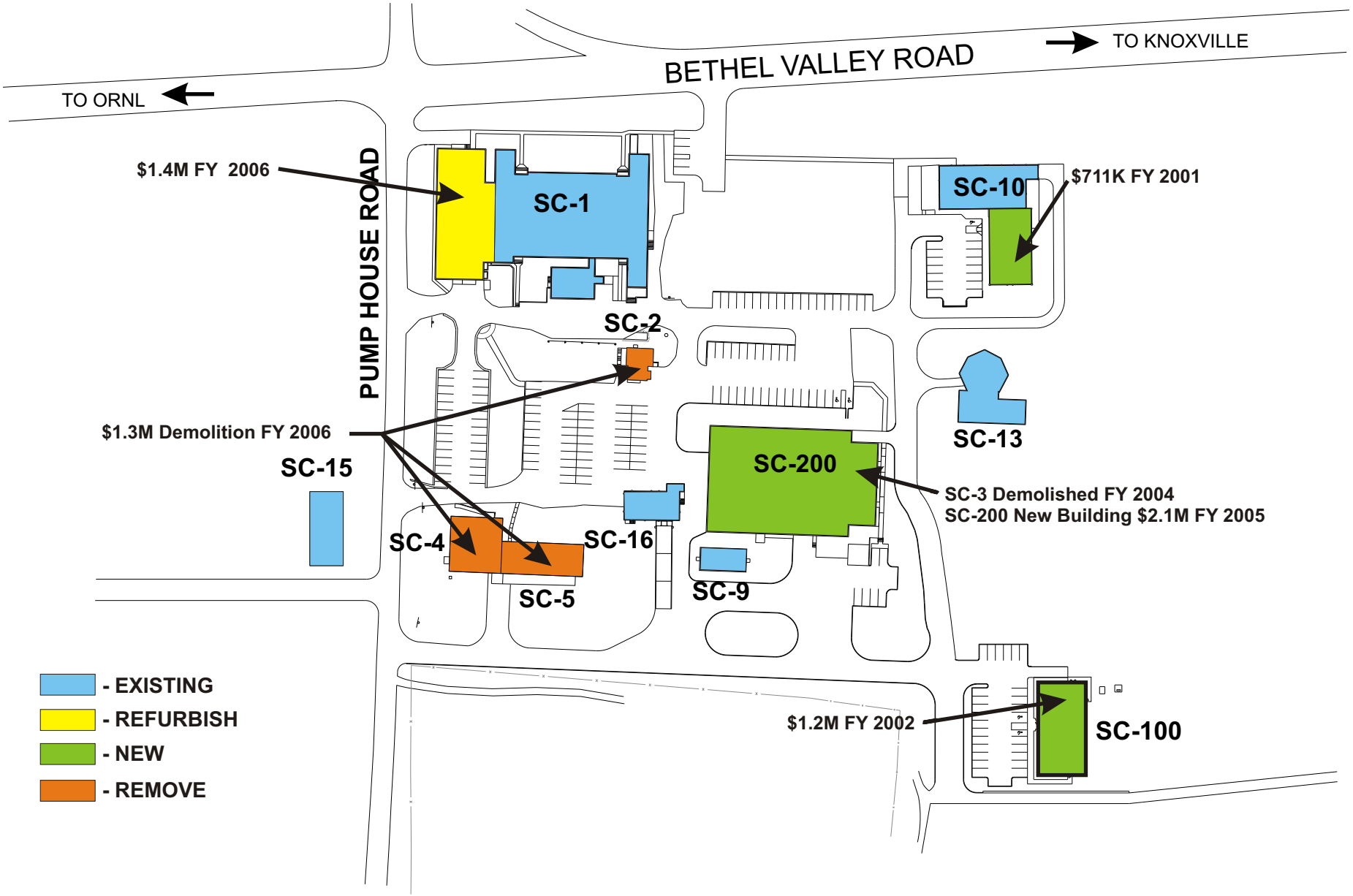
Appendix 1
ORISE Facilities Consolidation and Modernization Plan

ORISE
OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION



ORAU-ORISE Facilities Consolidation Site Map Eddy's Version 05-04-06.cdr
RKN, May 4, 2006

Appendix 2
ORISE South Campus Facility Modernization Plan
FY 2001 - FY 2006



ORISE South Campus Facility Modernization Plan Eddy's Version 05-04-06.cdr
RKN, May 4, 2006

Appendix 3 - ORISE Funding Plan

Integrated Facilities and Infrastructure Budget Data Sheet (IFI)	Deferred Maintenance Reduction	Gross Building Area Added	Gross Building Area Reduced	FY2006 Approp. ($000)	FY2007 Approp. ($000)	FY2008 Budget ($000)	FY2009 Budget ($000)	FY2010 Budget ($000)	FY2011 Budget ($000)	FY2012 Budget ($000)
SITE NAME: Oak Ridge Institute for Science and Education (ORISE)										
PROGRAM: SCIENCE										
1.0 Capital Line Item										
ORISE has no Line Item projects planned through FY2012	0	0	0	0	0	0	0	0	0	0
Subtotal Line Item Projects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
2.0 General Plant Project (GPP)										
2.1 New Construction (facilities and additions)										
(SC) South Campus Californium Source Teaching Lab (FY2008/FY2009)	3	2000				650	175			
(SC) SC-300 South Campus Storage Building (FY2010/FY2011)	8	12000						650	650	
Subtotal 2.1 New Construction GPP	**11**	**14000**	**0**	**0**	**0**	**650**	**175**	**650**	**650**	**0**
2.2 All Other GPP Projects (recap including alterations and improvements)										
(SC) Misc. Annual Retirement Unit Upgrades & Replacements (annual)	0				100	50	50	50	50	100
(SC) SC-1 Annex PTP Reconfiguration (FY2005)	0									
(SC) South Campus Site Improvements - Phase 1 (FY2006)	0			510						
(SC) SC-10 ESSAP Lab HVAC System Improvements (FY2006)	0			464						
(SC) SC-1 Storage Area Office Space Conversion (FY2007)	0				700					
(SC) SC-1 Insulation & Building Envelope Improvements (FY2007)	0				100					
(SC) SC-1 Interior Renovation (FY2009)	27						225			
(SC) SC-1 Exterior Improvements (FY2009)	0						250			
(SC) South Campus Site Improvements - Phase 2 (FY2012)	0									635
Subtotal 2.1 All Other (recap) GPP	**27**			**974**	**900**	**50**	**525**	**50**	**50**	**735**
Subtotal GPP (2.1 + 2.2)	**38**	**14000**	**0**	**974**	**900**	**700**	**700**	**700**	**700**	**735**
3.0 Institutional General Plant Project (IGPP)										
ORISE has no IGPP projects planned through FY2012	0	0	0	0	0	0	0	0	0	0
Subtotal IGPP	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4.0 Operating/Expense for Excess Elimination and Other										
4.1 Excess Elimination (demolition, sale, lease, transfer)										
(SC) Building SC-2 Decontamination & Demolition ($533K appropriated in FY2005)			952							
(SC) Building SC-5 Decontamination & Demolition			5641	768						
(SC) Building SC-4 Demolition			3596							
(SC) Transfer ORISE South Illinois Ave. (ATDD) Site to NOAA (FY2008)	51		17573							
Subtotal 4.1	**51**	**0**	**27762**	**768**	**0**	**0**	**0**	**0**	**0**	**0**
4.2 All Other (List direct O&E maintenance under 5.1)				0	0	0	0	0	0	0
Subtotal 4.2				**0**	**0**	**0**	**0**	**0**	**0**	**0**
Subtotal 4.0 Operating/Expense Projects (4.1 + 4.2)				**768**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL Capital & Operating Investment	**89**	**14000**	**27762**	**1742**	**900**	**700**	**700**	**700**	**700**	**735**
TOTAL Overhead Investments (IGPP)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Appendix 3 - ORISE Funding Plan (continued)

Integrated Facilities and Infrastructure Budget Data Sheet (IFI)	Gross Square Feet	FY2006 Approp. ($000)	FY2007 Approp. ($000)	FY2008 Budget ($000)	FY2009 Budget ($000)	FY2010 Budget ($000)	FY2011 Budget ($000)	FY2012 Budget ($000)
SITE NAME: Oak Ridge Institute for Science and Education (ORISE)								
PROGRAM: SCIENCE								
5.0 Maintenance & Repair								
5.1 Direct Funded (by HQ or Site Program)								
ORISE has no direct funded maintenance projects planned		0	0	0	0	0	0	0
Subtotal 5.1 Direct Funded Maintenance & Repair		**0**	**0**	**0**	**0**	**0**	**0**	**0**
5.2 Indirect (from Overhead or Space Charges)								
(SC) Misc. unspecified indirect funded maintenance projects (escalated)		474	380	329	336	344	378	386
Subtotal 5.2 Indirect Funded Maintenance & Repair		**474**	**380**	**329**	**336**	**344**	**378**	**386**
Subtotal Maintenance & Repair (5.1 + 5.2)		**474**	**380**	**329**	**336**	**344**	**378**	**386**
5.3 Direct Funded Deferred Maintenance (by HQ or Site Program)								
ORISE has no direct funded deferred maintenance projects planned		0	0	0	0	0	0	0
Subtotal 5.3 Direct Funded Deferred Maintenance		**0**	**0**	**0**	**0**	**0**	**0**	**0**
5.4 Indirect Funded Deferred Maintenance (from Overhead or Space Charges)								
ORISE has no direct funded deferred maintenance projects planned		0	0	0	0	0	0	0
Subtotal 5.4 Indirect Funded Deferred Maintenance		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Subtotal Deferred Maintenance (5.3 + 5.4)		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Maintenance (5.1 + 5.2 + 5.3 + 5.4)		**474**	**380**	**329**	**336**	**344**	**378**	**386**
6.0 Indirect O&E - ORISE has no indirect O&E projects planned								
6.1 Excess Elimination (demolition, sale, lease, transfer)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
6.2 Other Indirect Funded	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total Indirect O&E (6.1 + 6.2)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Gross Building Area	FY 2006 Area	FY 2007 Area	FY 2008 Area	FY 2009 Area	FY 2010 Area	FY 2011 Area	FY 2012 Area
7.0 Summary of Area Added & Eliminated								
7.1 Total Area to be Eliminated Each Year								
Line Item								
GPP								
IGPP								
Operations/Expense	**10189**	10189						
Indirect Operations/ Expense								
Transfer by sale or lease, or transfer to an outside federal agency	**17573**			17573				
Subtotal 7.1 Excess Facility Area Eliminated	**27762**	**10189**	**0**	**17573**	**0**	**0**	**0**	**0**
7.2 Total Area to Be Added by Line Item, GPP, and IGPP Construction								
Line Item								
GPP	**14000**				**2000**		**12000**	
IGPP								
Subtotal 7.2 Area Added	**14000**	**0**	**0**	**0**	**2000**	**0**	**12000**	**0**